



### Characteristics

Item	Performance																																											
Operating Temperature Range	-40°C to +105°C	-25°C to +105°C																																										
Rated Working Voltage Range	6.3V DC to 100V DC	160V DC to 450V DC																																										
Nominal Capacitance Range	0.1µF to 15000µF	0.47µF to 330µF																																										
Capacitance Tolerance	±20% (at +20°C, 120Hz)																																											
Leakage Current	$I \leq 0.01CV$ or $3\mu A$ max.	$I \leq 0.03CV + 20\mu A$ max.																																										
	Where: I = Leakage Current in mA C = Rated capacitance in mF V = Working voltage in V Whichever is greater after 3 minutes.																																											
Dissipation Factor (Tan δ) (120Hz \ +20°C )	<table border="1"> <thead> <tr> <th>Working Voltage</th> <th>6.3</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> <th>63</th> <th>100</th> <th>160</th> <th>200</th> <th>250</th> <th>350</th> <th>400</th> <th>450</th> </tr> </thead> <tbody> <tr> <td>Tan δ Max.</td> <td>0.22</td> <td>0.19</td> <td>0.16</td> <td>0.14</td> <td>0.12</td> <td>0.1</td> <td>0.1</td> <td>0.07</td> <td>0.15</td> <td>0.15</td> <td>0.15</td> <td>0.2</td> <td>0.24</td> <td>0.24</td> </tr> </tbody> </table>														Working Voltage	6.3	10	16	25	35	50	63	100	160	200	250	350	400	450	Tan δ Max.	0.22	0.19	0.16	0.14	0.12	0.1	0.1	0.07	0.15	0.15	0.15	0.2	0.24	0.24
	Working Voltage	6.3	10	16	25	35	50	63	100	160	200	250	350	400	450																													
Tan δ Max.	0.22	0.19	0.16	0.14	0.12	0.1	0.1	0.07	0.15	0.15	0.15	0.2	0.24	0.24																														
For capacitors whose capacitance exceeds 1,000µF, the specification of Tan δ is increased by 0.02 for every addition of 1,000µF.																																												
Maximum Permissible Ripple Current	Refer to standard products table (120 Hz, +105°). Correction factor for frequency.																																											
			Freq. (Hz)		60	120	1K	10K	100K																																			
	W.V. (V DC)																																											
	6.3-50	0.1 - 330		0.85	1	1.3	1.4	1.55																																				
		470 - 3300		0.95	1	1.15	1.2	1.25																																				
		≥4700		0.95	1	1.1	1.2	1.2																																				
	63-100	0.47 - 33		0.75	1	1.55	1.65	1.8																																				
47 - 220		0.75	1	1.4	1.6	1.65																																						
≥330		0.8	1	1.3	1.35	1.4																																						
≥ 160		1 - 220		0.7	1	1.3	1.7	1.7																																				
Low Temperature Characteristics (stability at 120Hz)	For capacitance value > 1000µF: Add 0.5 per 1000µF for -25°C/+25°C. Add 1 per 1000µF for -40°C/+20°C.																																											
	Working Voltage	6.3	10	16	25	35	50	63	100	160	200	250	350	400	450																													
	-40°C/+20°C	4	3	2	2	2	2	2	2	3	3	3	6	6	15																													
-25°C/+20°C		8	6	4	3	3	3	3																																				
High Temperature Loading	After 2000 hrs application of DC rated working voltage at +105°C, the capacitor shall meet the following limits: Post test requirements at +20°C.																																											
	Leakage Current		≤ The initial specified value																																									
	Capacitance change		≤ ±20% of initial specified value																																									
	Dissipation Factor (Tan δ)		≤ 200% of initial specified value																																									
Shelf Life	After storage for 500 hours at 105°C with no voltage applied. Post test requirements at +20°C same limits for high temperature loading.																																											

# Aluminium Electrolytic Capacitor



## Permissible Ripple Current

Max ripple current: mA (rms) (at 105°C, 120Hz)

W.V(SV) μF	6.3 (8)	10 (13)	16 (20)	25 (32)	35 (44)	40 (50)	50 (63)	63 (79)	100 (125)	150 (185)	200 (250)	250 (300)	350 (400)	400 (450)	450 (500)
0.1															
0.22															
0.33															
0.47															
1.0							12	12							
2.0							15								32
2.2								17							
3.3															
4.7															
5				26											
8															80
10			35	38	41		46	50	56	58		60	70		82
15							50								
20							65								145
22				57	61		68	82							150
25				57			70								
33															
40															200
47				80	90	100	110	135							
50				82			115			160					
100				135	170		180	223					350		
150							220								
200				210											
220				230		325	345	400							
250			220	230			360								
330								540							
470				440											
500				440											
680						620									
1,000				730		950	1080	1210							
2,200						1450		1630							
3,300															
4,700						1850									
5,000							1880								
6,800															
10,000															
15,000															

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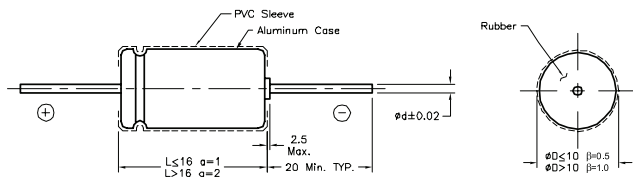
## Ultra-Mini 5mm Height

### Permissible Ripple Current

Max ripple current: mA (rms) (at 85°C, 120Hz)

W.V(SV) μF	6.3 (8)	10 (13)	16 (20)	25 (32)	35 (44)	50 (63)	63 (79)
0.1					→	1	
0.22					→	2	
0.33					→	2.5	
0.47					→	3.5	
1					→	6.5	
2.2					→	10	
3.3				→	10	14	
4.7			→	16	15	18	
10	15	16	17	23	26	31	
22	22	25	28	32	43	50	
33	30	33	35	45	52		
47	36	45	50	55	60		
100	50	75	80	85			
220	70	85	90				
330	80						
470							

### Diagram



ØD (+0.5mm Max.)	6.3	8	10	13	16	18
Ød (±0.02mm)	0.6	0.6	0.6	0.6	0.8	0.8

Dimensions : Millimetres

### Part Number Table

Description	Working Voltage (WV DC)	Capacitance (μF)	Case Size		Part Number
			Body Diameter	Body Length	
Aluminium Electrolytic Capacitor	150	10	10	21	MCAX150V106K10X21
	150	50	13	27	MCAX150V506M13X27
	16	10	6	13	MCAX16V106K6X13
	25	10	6	13	MCAX25V106K6X13
	25	10	6	13	MCAX25V106M6X13

# Aluminium Electrolytic Capacitor



Description	Working Voltage (WV DC)	Capacitance (µF)	Case Size		Part Number
			Body Diameter	Body Length	
Aluminium Electrolytic Capacitor	25	100	8	13	MCAX25V107K8X13
	25	100	8	13	MCAX25V107M8X13
	25	100	8	16	MCAX25V107M8X16
	25	1,000	13	22	MCAX25V108M13X22
	25	200	8	16	MCAX25V207K8X16
	25	22	6	13	MCAX25V226M6X13
	25	220	8	16	MCAX25V227M8X16
	25	25	6	13	MCAX25V256K6X13
	25	25	6	13	MCAX25V256M6X13
	25	250	8	16	MCAX25V257M8X16
	25	47	6	13	MCAX25V476M6X13
	25	470	10	21	MCAX25V477M10X21
	25	50	6	13	MCAX25V506M6X13
	25	500	10	21	MCAX25V507M10X21
	350	10	10	21	MCAX350V106M10X21
	350	100	18	36	MCAX350V107M18X36
	35	10	6	13	MCAX35V106M6X13
	35	100	8	16	MCAX35V107M8X16
	35	22	6	13	MCAX35V226M6X13
	35	47	6	13	MCAX35V476K6X13
	40	1,000	16	32	MCAX40V108M16X32
	40	220	10	21	MCAX40V227M10X21
	40	2,200	18	36	MCAX40V228M18X36
	40	47	8	16	MCAX40V476M8X16
	40	4,700	20	36	MCAX40V478M20X36
	40	680	16	28	MCAX40V687M16X28
	450	10	13	25	MCAX450V106M13X25
	450	2	10	21	MCAX450V205M10X21
	450	20	13	32	MCAX450V206M13X32
	450	22	16	32	MCAX450V226M16X32
	450	40	18	36	MCAX450V406M18X36
	450	8	13	25	MCAX450V805M13X25
	50	1	6	13	MCAX50V105K6X13
	50	10	6	13	MCAX50V106M6X13
	50	100	8	16	MCAX50V107K8X16
	50	1,000	16	32	MCAX50V108M16X32
	50	1,000	16	38	MCAX50V108M16X38

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# Aluminium Electrolytic Capacitor



Description	Working Voltage (WV DC)	Capacitance (µF)	Case Size		Part Number
			Body Diameter	Body Length	
Aluminium Electrolytic Capacitor	50	15	6	13	MCAX50V156K6X13
	50	150	10	21	MCAX50V157M10X21
	50	2	6	13	MCAX50V205K6X13
	50	20	6	13	MCAX50V206K6X13
	50	22	6	13	MCAX50V226M6X13
	50	25	6	13	MCAX50V256M6X13
	50	47	8	16	MCAX50V476M8X16
	50	5,000	22	42	MCAX50V508K22X42
	63	1	6	13	MCAX63V105M6X13
	63	10	6	13	MCAX63V106M6X13
	63	100	10	21	MCAX63V107M10X21
	63	1,000	16	36	MCAX63V108M16X36
	63	2.2	6	13	MCAX63V225M6X13
	63	22	6	13	MCAX63V226M6X13
	63	220	13	22	MCAX63V227M13X22
	63	2,200	20	36	MCAX63V228M20X36
	63	330	13	27	MCAX63V337M13X27
	63	47	8	16	MCAX63V476M8X16

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